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3 mixing cells, an alginate salt and a source of calcium ions to
4 provide a mixture;
5 adding a calcium releasing compound to the mixture to provide a
6 crosslinked hydrogel;
7 selectively controlling shrinking, swelling or maintaining of the
8 crosslinked hydrogel by varying a calcium ion concentration of a medium into
9 which the crosslinked hydrogel is introduced; and
10 culturing the crosslinked hydrogel in the medium to provide a
11 three-dimensional crosslinked hydrogel/cell system for growing the cells *in vitro*.

1 23. (Twice Amended) A method for preparing a three-dimensional
2 hydrogel system, the method comprising the steps of:
3 adding a cation-releasing compound to a mixture of at least one
4 hydrophilic polymer and a source of cations to provide a three-dimensional
5 crosslinked hydrogel system; and
6 selectively controlling shrinking, swelling or maintaining of the
7 hydrogel system by varying a cation concentration of a medium into which the
8 hydrogel system is introduced, wherein the cation in the medium is selected to be
9 the same cation as the cation in the hydrogel system.

1 34. (Twice Amended) A three-dimensional crosslinked hydrogel
2 composition, consisting essentially of:
3 at least one hydrophilic polymer;
4 a source of cations;
5 a cation-releasing compound, whereby a mixture of the at least one
6 hydrophilic polymer, the source of cations and the cation-releasing compound
7 forms the crosslinked hydrogel composition; and
8 a culture medium into which the hydrogel composition is
9 introduced, the culture medium having a predetermined cation concentration,
10 wherein the predetermined cation concentration determines the shrinking, swelling
11 or maintaining of the crosslinked hydrogel composition.

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Please cancel claim 39 without prejudice.

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1 ~~sub D6~~ 40. (Amended) The composition as defined in claim 34 wherein
2 the cation in the medium is calcium, and wherein when the predetermined cation
3 concentration is a calcium ion concentration between about 0.0020 M and about
4 0.0030 M, the hydrogel composition remains substantially the same size.

1 41. (Amended) The composition as defined in claim 45 wherein
2 the cells are at least one of osteoblasts and cells which secrete a medically useful
3 compound.

1 45. (New) The three-dimensional crosslinked hydrogel composition
2 as defined in claim 34, further comprising cells incorporated into the hydrogel
3 composition, thereby forming a hydrogel/cell system.

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1 46. (New) The three-dimensional crosslinked hydrogel composition
2 as defined in claim 34 wherein the cation in the medium is calcium, and wherein
3 when the predetermined cation concentration is a calcium ion concentration
4 between about 0.0005 M and about 0.0010 M, the hydrogel composition swelled.

~~sub D7~~
2 47. (New) The three-dimensional crosslinked hydrogel composition
3 as defined in claim 34 wherein the cation in the medium is calcium, and wherein
4 when the predetermined cation concentration is a calcium ion concentration of
about 0.0040 M, the hydrogel composition shrank.

REMARKS

Entry of the foregoing amendments to the application is requested on the grounds that the claims, as amended, patentably distinguish over the cited art of record or, alternatively, place the application in better condition for appeal. The claims more particularly point out and distinctly claim the subject matter which Applicant regards as the invention. No new issues have been added which would require further consideration and/or search, nor has any new matter been